

1. A retractable hardtop system for a vehicle having a body defining a passenger compartment extending between a front windshield and a rear storage area, the hardtop system being movable between an extended position, wherein the hardtop system defines a roof over the passenger compartment and a retracted position, wherein at least a portion of the hardtop system is disposed in the storage area, the hardtop system comprising:

2 a rear section pivotally coupled with the vehicle body;

4 a front section pivotally coupled with the rear section, the front section extending between the front windshield and the rear section when the hardtop is in the extended

6 position;

8 a center panel opening defined between the rear and front sections,

10 a balance link having a first end pivotally interconnect with the front section and a second end pivotally interconnected with the vehicle body;

12 a center panel interconnected with the balance link for movement therewith, the center panel and balance link being configured such that when the top is in the extended

14 position, the center panel fills the center panel opening and when the top is in the retracted position, the center panel moves out of the center panel opening.

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2. A retractable hardtop system as set forth in claim 1, wherein the balance link includes a mid-portion extending between the first and second ends, the mid-portion of the balance link being operatively connected to the center panel so that the center

4 panel remains generally parallel with the balance link during movement of the hardtop between the extended and retracted positions.

3. A retractable hardtop system as set forth in claim 2, wherein the rear section includes a pair of spaced apart side portions and a backlight extending between the side portions, the side portions and the backlight defining at least a portion of the center panel opening.

4. A retractable hardtop system as set forth in claim 3, wherein the center
2 panel extends between the side portions when the top is in the extended position.

5. A retractable hardtop system as set forth in claim 1, wherein the rear
2 section includes a rearward end pivotally coupled with the vehicle body.

6. A retractable hardtop system as set forth in claim 5, wherein:
2 the rear section includes a forward end extending forwardly from the
rearward end when the hardtop is in the extended position;
4 the front section includes a rearward end pivotally coupled to the forward
end of the rear section;
6 the rear section includes an inner surface facing the passenger
compartment when the hardtop is in the extended position; and
8 the front section includes an inner surface facing the passenger
compartment when the hardtop is in the extended position.

7. A retractable hardtop system as set forth in claim 6, wherein the inner
2 surfaces of the front and rear sections face each other when the hardtop is in the retracted
position.

8. A retractable hardtop system as set forth in claim 7, wherein the center
2 panel is disposed between the inner surfaces of the front and rear sections when the
hardtop is in the retracted position.

9. A retractable hardtop system as set forth in claim 1, wherein the center
2 panel has an inner surface facing the passenger compartment when the top is in the
extended position, the inner surface of the center panel facing upwardly when the hardtop
4 is in the retracted position.

10. A retractable hardtop system as set forth in claim 6, wherein the rear
2 section includes a pair of spaced apart side portions and a backlight extending laterally
between the side portions, the side portions each having a forward end, the backlight
4 having a forward end spaced rearwardly of the forward end of the side portions, the
center panel opening having a forward edge defined by the rearward end of the front
6 section, a rearward edge defined by the backlight, and a side edges defined by the side
8 portions, the forward edge being generally aligned with the forward ends of the side
portions.

11. A retractable hardtop system as set forth in claim 1, wherein the front
2 section includes a median panel pivotally coupled to the rear section, the front section
further including a front panel pivotally coupled to the median panel and extending
4 between the median panel and the windshield when the hardtop is in the extended
position.

12. A retractable hardtop system for a vehicle having a body defining a
2 passenger compartment extending between a front windshield and a rear storage area, the
hardtop system being movable between an extended position, wherein the hardtop system
4 defines a roof over the passenger compartment and a retracted position, wherein at least a
portion of the hardtop system is disposed in the storage area, the hardtop system
6 comprising:

8 a rear section having a rearward end pivotally interconnected with the vehicle
body and a forward end extending forwardly therefrom when in the extended position,
the rear section having a pair of spaced apart side portions and a backlight extending
10 therebetween,

12 a front section having a rearward end pivotally interconnected with the forward
end of the rear section and a forward end extending forwardly therefrom when in the
extended position;

14 a center panel opening defined between the rear and front sections, the center panel opening extending laterally between the side portions of the rear section;

16 a balance link having a first end pivotally interconnect with the front section and a second end in mechanical communication with the vehicle body;

18 a center panel interconnected with the balance link for movement therewith, such that when the top is in the extended position, the center panel fills the center panel opening and when the top is in the retracted position, the center panel moves out of the center panel opening, the center panel remaining generally parallel with the balance link

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22 during movement of the top between the extended and retracted positions.

13. A retractable hardtop system as set forth in claim 12, wherein the side portions each have a forward end, the backlight having a forward end spaced rearwardly of the forward end of the side portions, the center panel opening having a forward edge defined by the rearward end of the front section, a rearward edge defined by the backlight, and a side edges defined by the side portions, the forward edge being generally aligned with the forward ends of the side portions.

14. A retractable hardtop system as set forth in claim 12, wherein the backlight and the side portions define at least a portion of the center panel opening.

15. A retractable hardtop system as set forth in claim 12, wherein the front and rear sections each include an inner surface facing the passenger compartment when the hardtop is in the extended position, the inner surfaces of the front and rear sections facing each other when the hardtop is in the retracted position.

16. A retractable hardtop system as set forth in claim 15, wherein the center panel is disposed between the inner surfaces of the front and rear sections when the hardtop is in the retracted position.

17. A retractable hardtop system as set forth in claim 12, wherein the front
2 section includes a first portion pivotally coupled to the forward end of the rear section.

18. A retractable hardtop system as set forth in claim 17, wherein the front
2 section further includes a second portion pivotally coupled to the first portion, the second
4 portion extending between the first portion and the windshield when the hardtop is in the
4 extended position.

19. A retractable hardtop system for a vehicle having a body defining a
2 passenger compartment extending between a front windshield and a rear storage area, the
4 hardtop system being movable between an extended position, wherein the hardtop system
6 defines a roof over the passenger compartment and a retracted position, wherein at least a
portion of the hardtop system is disposed in the storage area, the hardtop system
comprising:

10 a rear section having a rearward end pivotally interconnected with the vehicle
body and a forward end extending forwardly therefrom when in the extended position,
the rear section having a pair of spaced apart side portions and a backlight extending
laterally therebetween,

12 a front section having a rearward end pivotally interconnected with the forward
end of the rear section and a forward end extending forwardly therefrom when in the
extended position;

14 a center panel opening defined between the rear and front sections, the center
panel opening extending laterally between the side portions of the rear section;

16 a balance link having a first end pivotally interconnect with the front section and a
second end in mechanical communication with the vehicle body;

18 a center panel interconnected with the balance link for movement therewith, such
that when the top is in the extended position, the center panel fills the center panel
20 opening and when the top is in the retracted position, the center panel moves out of the

center panel opening, the center panel remaining generally parallel with the rear section
22 during movement of the top between the extended and retracted positions.

20. A retractable hardtop system for a vehicle having a body defining a
2 passenger compartment extending between a front windshield and a rear storage area, the
4 hardtop system being movable between an extended position, wherein the hardtop system
6 defines a roof over the passenger compartment and a retracted position, wherein at least a
portion of the hardtop system is disposed in the storage area, the hardtop system
comprising:

8 a rear section having a rearward end pivotally interconnected with the vehicle
body and a forward end extending forwardly therefrom when in the extended position,
10 the rear section having a pair of spaced apart side portions and a backlight extending
laterally therebetween, the rear section having an inner surface that faces the passenger
compartment when the hardtop is in the extended position;

12 a front section having a rearward end pivotally interconnected with the forward
end of the rear section and a forward end extending forwardly therefrom when in the
14 extended position;

16 a center panel opening defined between the rear and front sections, the center
panel opening extending laterally between the side portions of the rear section;

18 a balance link having a first end pivotally interconnect with the front section and a
second end in mechanical communication with the vehicle body;

20 a center panel having an inner surface facing the passenger compartment and
being generally contiguous with the inner surface of the rear section when the hardtop is
22 in the extended position, the center panel being interconnected with the balance link for
movement therewith, such that when the top is in the extended position, the center panel
24 fills the center panel opening, and when the top is in the retracted position, the center
panel moves out of the center panel opening and the inner surfaces of the center panel
and the rear section face the same direction.

21. A retractable hardtop system for a vehicle having a body defining a
2 passenger compartment extending between a front windshield and a rear storage area, the
4 hardtop system being movable between an extended position, wherein the hardtop system
defines a roof over the passenger compartment and a retracted position, wherein at least a
portion of the hardtop system is disposed in the storage area, comprising:

6 a rear section having a pair of spaced apart side portions and a backlight
extending laterally therebetween;

8 a front section extending forwardly from the rear section when the top is in the
extended position;

10 a center panel opening defined between the rear and front sections, the center
panel opening extending laterally between the side portions of the rear section;

12 a center panel filling the center panel opening when the top is in the extended
position, the center panel remaining generally parallel with the rear section during
14 movement of the top between the extended and retracted positions.

22. A retractable hardtop system for a vehicle having a body defining a
2 passenger compartment extending between a front windshield and a rear storage area, the
4 hardtop system being movable between an extended position, wherein the hardtop system
defines a roof over the passenger compartment and a retracted position, wherein at least a
portion of the hardtop system is disposed in the storage area, the hardtop system
6 comprising:

8 a rear section having a pair of spaced apart side portions and a backlight
extending laterally therebetween, the rear section having an inner surface that faces the
passenger compartment when the hardtop is in the extended position;

10 a front section extending forwardly from the rear section when the top is in the
extended position;

12 a center panel opening defined between the rear and front sections, the center
panel opening extending laterally between the side portions of the rear section;

- 14 a center panel filling the center panel opening when the top is in the extended position, the center panel having an inner surface facing the passenger compartment and
- 16 being generally contiguous with the inner surface of the rear section when the hardtop is in the extended position, the inner surfaces of the center panel and the rear section facing
- 18 the same direction when the top is in the retracted position.